The Oil Drum
DISCUSSIONS ABOUT ENERGY AND OUR FUTURE

The Course of Our Lives WILL Be Determined by the First Derivative of a Function

Posted by Prof. Goose on July 15, 2006 - 1:07am
Topic: Supply/Production
Tags: albert bartlett, doubling time, first derivative, oil, oil sands, peak oil, youtube [list all tags]

Tonight, I have three video pieces for you. The first is an oldie, but a goodie.

It seems to me that one of the keys to the puzzle of why people don't understand the problems that peak oil and other sustainability issues present is innumeracy and/or a lack of understanding spatial/change functions--namely the meaning and implications of constant growth.

I found a lecture that can help (linked over at GPM here) by Dr. Albert Bartlett. Dr. Bartlett professes physics at the University of Colorado. He knows what he's talking about--that much I can vouch for.

If you need me to sell it to you so you'll watch it, that's under the fold, as well as links to the other two videos you should watch from youtube, one on the Canadian oil sands, the other a 90 second short on peak oil.

First, the links to the youtube pieces. This is a link to a 20 minute video (sounds like it's from SunCor?--and it sounds like it's for the folks living around the Athabasca oil sands in Canada), about how the oil is extracted from the oil sands, the process, the dangers, the effects. Pretty interesting. Bad audio in some spots.

And then here's the 90 second short I spoke of above the fold. Rather dramatic, but on point.

Now, for my sell of the Bartlett lecture.

The tagline of the Bartlett lecture? "The greatest shortcoming of the human race is our inability to understand the exponential function (as related to peak oil and sustainability)." Bingo.

Now, I know/use calculus and differential equations and teach econometrics pretty frequently, so this stuff is already in my head. But, because I use it so much, for some reason, I forget some days that most folks do not have exposure to these ideas or the ability to use them in their daily lives.

It can be intimidating stuff. But we've used versions of calculus statements around here all the time by saying phrases like "8% depletion" or "we aren't actually running out of oil and that we're at half of supply."

But what does 8% depletion *really* mean?

The problem is that people, journalists, even some experts do not know what the functions behind

these ideas mean, or more importantly their implications for the future. The numbers hide the meaning. Bartlett's lecture can help you give these numbers the meaning they deserve.

I don't mean to say that these people who don't get this or have never gotten are not intelligent. It's that they haven't connected those wires in their head, that's all. Bartlett is wonderful at making those connections, and that's why I am bringing this to you today.

So, if you're a wannabe geek and you have an hour, I would suggest that everyone in the world watch this lecture by Dr. Bartlett. Please. It's an easy piece to understand. In fact, it's damned near enjoyable for an arithmetic lecture.

One of the main points of Dr. Bartlett's lecture is that "we cannot let other people do our thinking for us." So, so true. But to do that, you have to have the toolbox to actually think for yourself!

Which reminds me, there's another book that I suggest for my students: Joel Best's Damned Lies and Statistics. It's a wonderful primer on how experts, politicians, and the press screw statistics up on a daily basis. This is another important book I would suggest that everyone reads to pick up the daily fallacies that try to enter our cerebra.

< rant >
I swear, every single person on this earth should have to take a research methods course (understanding measurement, science, modeling, etc., etc.) and a calculus or statistics (understanding what to do with those measurements) course, damn it.
< /rant >